OpenManage™ Integration for VMware vCenter Installation and Licensing

How things work and best practices

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Revisions

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Executive summary

The Dell OpenManage Integration for VMware vCenter is a virtual appliance that streamlines tools and tasks associated with the management and deployment of Dell servers in your virtual environment. It reduces complexity by natively integrating the key management capabilities into the VMware vCenter console. It enables and speeds up bare metal provisioning from within vCenter and minimizes risk with hardware alarms, streamlined firmware updates, and provides deep visibility into inventory, health and warranty details.

With the 2.0 release of the Dell OpenManage Integration for VMware vCenter, a new license format is used. Changes have been made to the license enforcement behavior in certain parts of the application depending on the license type and expiration status. Cushioning has been built into the license enforcement behavior on purchased licenses, allowing features to continue operating beyond the expiration period, while also providing reasonable limits.

Having a strong understanding of the licensing procedure and enforcement behavior can help you get the most from your license, and provide an understanding of when and why certain enforcement behavior can occur.

Introduction

This white paper provides information on installing/deploying the OpenManage Integration for VMware vCenter as a virtual appliance. The whitepaper also discusses the way the Dell OpenManage Integration for VMware vCenter is licensed, the process for purchasing a license, the duration of the default trial license, license enforcement mechanizms, and the built in cushioning designed into the product.

1 Installation

1.1 Extracting the OVF

1. Unzip the zip file containing the OpenManage Integration package, and run the **Dell_OpenManage_Integration.exe** file
2. Click **Next** to view the EULA before proceeding to extract the contents.
3. Click **Yes** to accept the EULA. To move to the Install Screen. Click **Install** to extract the files. All the files are extracted to the same folder as with the file **Dell_OpenManage_Integration.exe**.

1.2 Deploying the OpenManage Integration OVF

1. Launch the VMware vSphere Desktop Client or Web Client.
2. For **vSphere Desktop Client**, Select **File -> Deploy OVF Template**.

   For **vSphere Web Client**, right-click on a vCenter and select **Deploy OVF Template.**

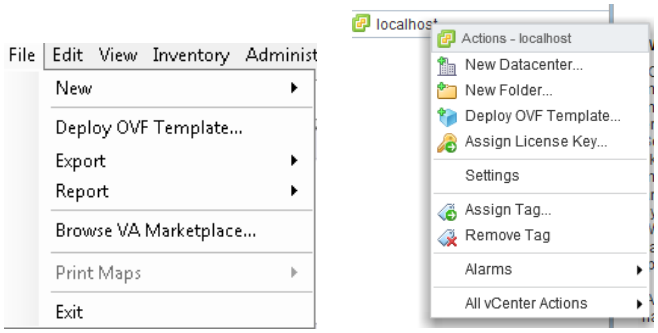

Figure 1 Deploy OVF Template Menu Item

3. For **vSphere Desktop Client**, In the Source location window, use the **Browse** button to locate the OVF. The location can be a local drive, network drive, CD-ROM/DVD, or the Internet.

   For **vSphere Web Client**, select the appropriate radio button "URL or "Local File" for the OVF. For "Local File", use the **Browse** button to locate the OVF. Review the information, and then click **Next**.
4. For the screens that follow, provide the name/location details (datacenter, clusters, resource pool, datastore, etc – depending on vCenter configuration) for the deployed OVF.

   Note: For the page showing datastore, select the format in which you want to store the virtual disks.

   a. Thick Provision Lazy Zeroed
   A lazy-zeroed thick disk has all disk space allocated at the time of creation, but each block is zeroed only on first write. This results in a shorter creation time, but reduced performance the first time a block is written to. Subsequent writes, however, have the same performance as on eager-zeroed thick disks.

b. Thick Provision Eager Zeroed [**Recommended**]
An eager-zeroed thick disk has all space allocated and zeroed out at the time of creation. This increases the time it takes to create the disk, but results in the best performance, even on the first write to each block.

c. Thin Provision
Space required for a thin-provisioned virtual disk is allocated and zeroed upon first write, as opposed to upon creation. There is a higher I/O cost (similar to that of lazy-zeroed thick disks) during the first write to an unwritten file block, but on subsequent writes thin-provisioned disks have the same performance as eager-zeroed thick disks.

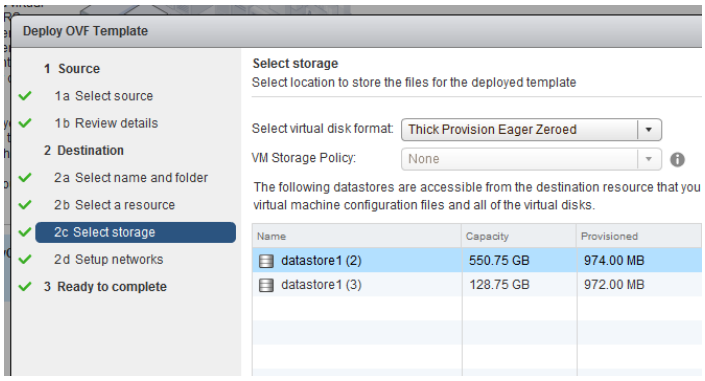

Figure 2 Deploy OVF Template Wizard

5. Specify network setups /mapping as necessary.
6. Review information on the screen "**Ready to Complete**". To Power on the Virtual Machine right after deployment process completes, select the **Power on after deployment** check box. Click **Finish** to start the deployment process.
7. After the OpenManage Integration for VMware vCenter virtual machine is powered ON, from the vSphere Desktop Client or Web Client, locate the OpenManage Integration for VMware vCenter virtual appliance and click the **Console tab.** (or ight-click the virtual appliance and select **Open Console**.)
8. Wait for the OpenManage Integration for VMware vCenter to finish booting up.
9. In the main menu, select **Change Admin Password**.

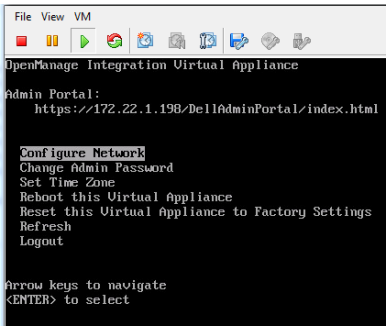

Figure 3 OpenManage Integration Virtual Machine Console

2 Registering OpenManage Integration for VMware vCenter

Once the password for the virtual appliance is setup, register vCenters by performing the following steps:

1. Launch Internet Explorer, and enter https://<ApplianceIPaddress> as the Web URL.
2. On the **Login** page, enter administrator password and click **Login**.
3. Click **Register New vCenter Server**.

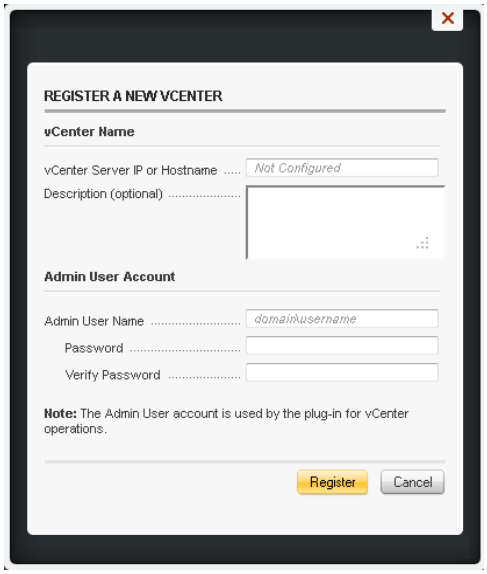

Figure 4 Register a New vCenter Dialog

4. Enter the IP Address or Hostname of the vCenter server.
5. Enter the Admin User Name and the Password.
6. Verify the password.

3 License Types

With version 2.0 there are two types of licenses. An evaluation license, and a standard license. These licenses restrict functionality based on time, and the number of Dell 11th Generation or newer hosts.

3.1 Version 1.x license

The 1.0 version of the Dell OpenManage Integration for VMware vCenter, formally named the Dell Plug-in for VMware vCenter used a license file that is not compatable with the 2.0 version of the product. It will continue to function only for the 1.0 version.

The 2.0 release of the integration requires a newer license file. This new license file is different than the one you would have received when purchasing a 1.x version. At the launch of the 2.0 release in November 2013, new license files have been e-mailed to existing customers using the email address on file. If you had purchased licenses prior to the 2.0 release and did not receive your new license file, please send an email with your original order number and email address to: download_software@dell.com.

3.2 Version 2.0 Licenses

Version 2.0 of the Dell OpenManage integration for VMware vCenter uses a new license format. There are two types of licenses that are usable in this version.

3.2.1 Evaluation License

When the Dell OpenManage integration for VMware vCenter version 2.x appliance is powered on for the first time, an evaluation license is automatically installed. This evaluation license will allow the Dell OpenManage Integration to operate and manage 5 ESXi 11th Generation and newer hosts without blocking any functionality for the 90 day evaluation period from the first power on. Once a standard licnese is uploaded, the evaluation license is no longer used.

3.2.2 Standard License

A standard license is purchased from Dell. Different purchase SKU's are used when ordering the license based on the number of Dell 11th Generation or newer servers running VMware ESXi to be managed, and the duration of product support. The license includes product support and appliance updates for a periods of ether 3 or 5 years.

4 Licensed Hosts and vCenters

4.1 Hosts

A license is purchased to support a quantity of 11th Generation or newer Dell servers as ESXi hosts to be managed by the Dell OpenManage Integration for VMware vCenter. You may have more 11th generation or newer Dell servers as ESXi hosts in your environment, however the licenses is not applied to a host unless it is added to a connection profile. Dell 9th and 10th generation servers will not count against your license. However, If you choose to manage Dell 9th and 10th generation servers have purchased at least a single host license.

4.2 vCenters

In the 2.0 version, 10 vCenter servers are supported and licensed per Dell OpenManage Integration for VMware vCenter virtual appliance. If support for greater than 10 vCenters are required, a separate license and appliance should be purchased for each virtual appliance.

5 Uploading Licenses

When a license is purchased, an email will be sent to you containing the license file. The license is to be uploaded from the web administration console, accessable by using the ip address of the appliance.

1. Licenses are uploaded using the Upload License link on the VCenter Registration Page.

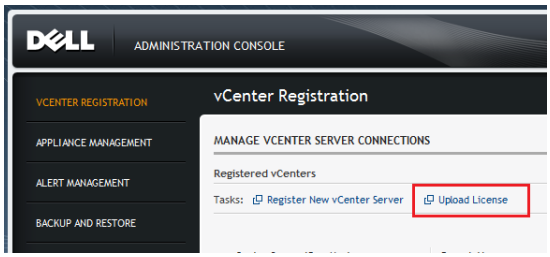

Figure 5 License Upload Link

2. After clicking the Upload License link, the Upload License dialog box will appear.

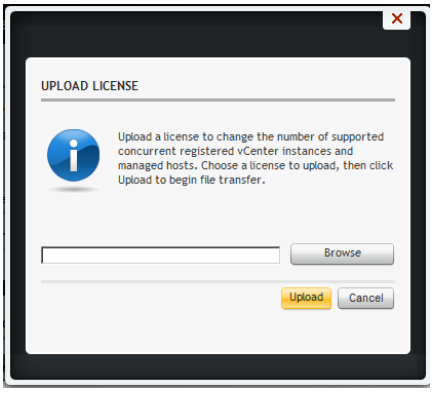
UPLOAD LICENSE
Upload a license to change the number of supported concurrent registered vCenter instances and managed hosts. Choose a license to upload, then click Upload to begin file transfer.
Browse
Upload
Cancel

Figure 6 The Upload License Dialog

3. Browse to the license XML file and click Upload.

NOTE: The license file may come to you packaged inside a zip file. Be sure to unzip the zip file and upload only the license .xml file. The license file will likely be named based on your order number (i.e 123456789.xml)

4. The Upload License file should display a success message if the license upload was successful.

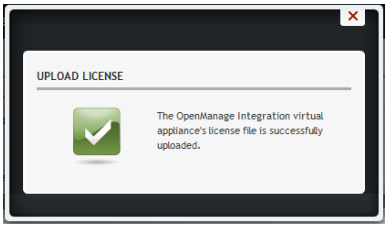

Figure 7 Message shown when a license is successfully uploaded.

5.1 Replacement License for existing version 1.0 customers

At the launch of the 2.0 release in November 2013, new license files have been e-mailed to existing customers using the email address on file. If you had purchased licenses prior to the 2.0 release and did not receive your new license file, please send an email with your original order number and email address to: download_software@dell.com.

The license file will arrive as a zip file attachment. Be sure to exract the license xml file from the zip file and upload the xml file, not the zip file.

The new license file will have a start date of the original date of sold, and have an expiration of three years from that date of purchase.

5.2 License file for new purchases

When purchasing a new license, an email will be sent from Dell containing the new license file. The license should arrive in an xml format. If the license is in a zip format, extract the license xml file from the zip file before uploading.

5.3 Stacking licenses

New in version 2.0 of the Dell OpenManage Integration for VMware vCenter is the ability to stack multiple standard licenses to increase the number of supported hosts to the sum of the hosts in the uploaded licenses. An evaluation license cannot be stacked. The number of supported vCenters cannot be increased by stacking, and would require the use of a multiple appliances.

There are some restrictions around the functionality of stacking licneses. If a new standard license is upload before the existing standard license is expired, the licenses will stack. Otherwise, if the license is expired and a new license is uploaded, only the number of hosts from the new license will be supported. If there are already multiple licenses uploaded, the number of supported hosts will be the sum of the hosts in the non-expired licenses at the time the last license was uploaded.

5.4 Expired Licenses

Licenses that are past their support duration, typically three or five years from date of purchase, are blocked from being uploaded. If a licenses has expired after being uploaded, functionality for existing hosts will continue, however upgrades to new versions of the Dell OpenManage Integration for VMware vCenter are blocked.

5.5 Replacement of Licenses

Should there be a problem with your order and you receive a replacement license from Dell, the replacement license will contain the same entitlement ID of the previous license. When uploading a replacement licnese, if a license was already uploaded with the same entitlement ID it will be replaced.

6 Viewing Information about Uploaded Licenses

There are several where information about licenses can be viewed. Licensies can only be uploaded using the Upload License link in the Dell Administration Console. Information about specific licenses are not available in the 2.0 release.

6.1 The Dell Administration Console

Information about the licenses can be seen from the Dell Administrative console.

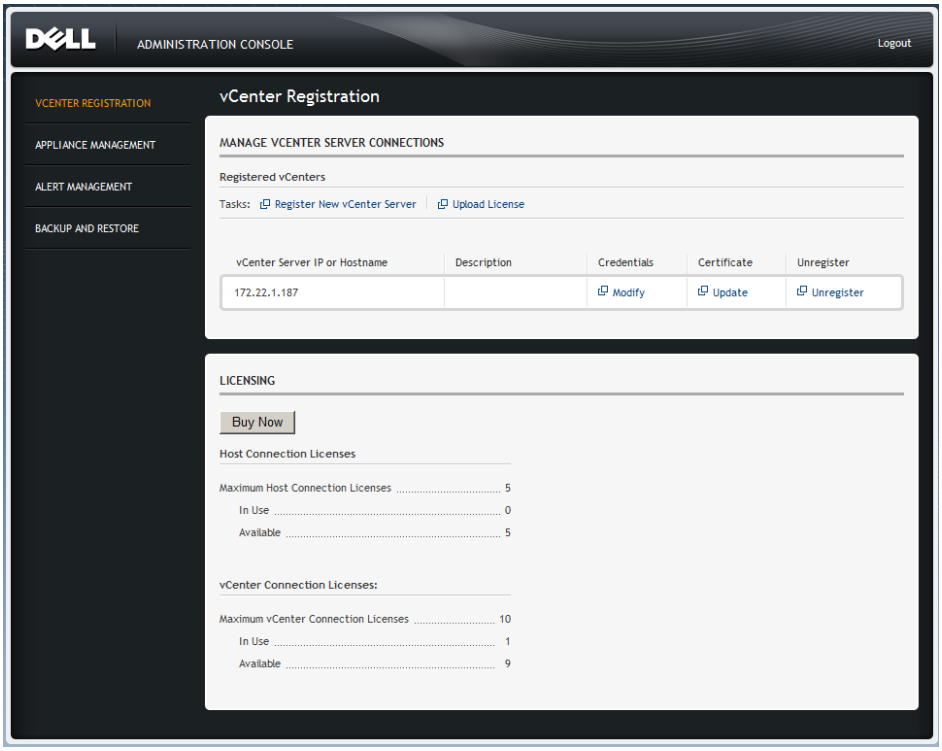

Figure 8 Licensing in the Dell Administration Console web portal

6.2 The Dell Management Console

Information about the license can be seen from within the integration. Licensing information is available from the Dell Management console's overview page, or if using the web client, from the OpenManage Integration Licensing tab.

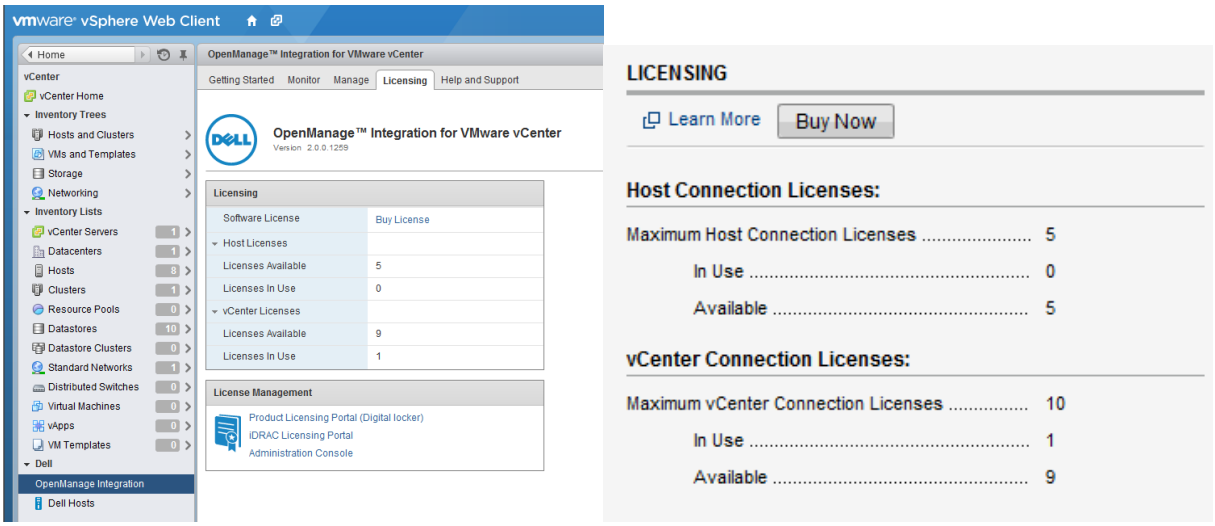

Figure 9 Licensing Information as seen from within the integration

6.3 License Messaging

There are several informational, error, or warning messages that can be displayed.

6.3.1 License expiring soon

Starting within 30 days of a license expiration, a message will be displayed informing how many days are remaining for that license.

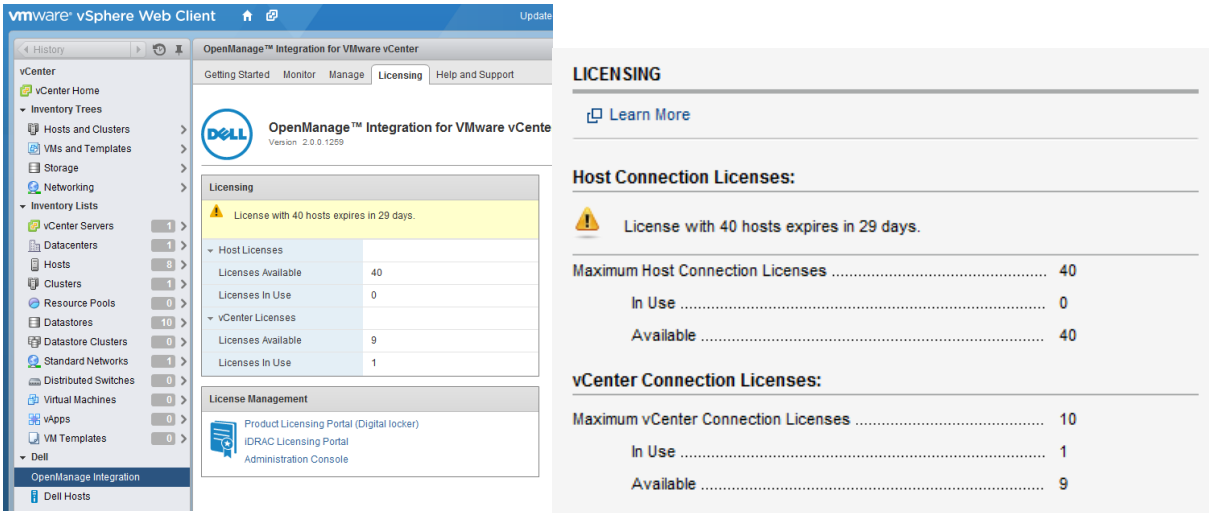

Figure 10 License expiring soon message

6.3.2 License has expired and is in a grace period

After a license expires, it will enter a 90 day grace period.

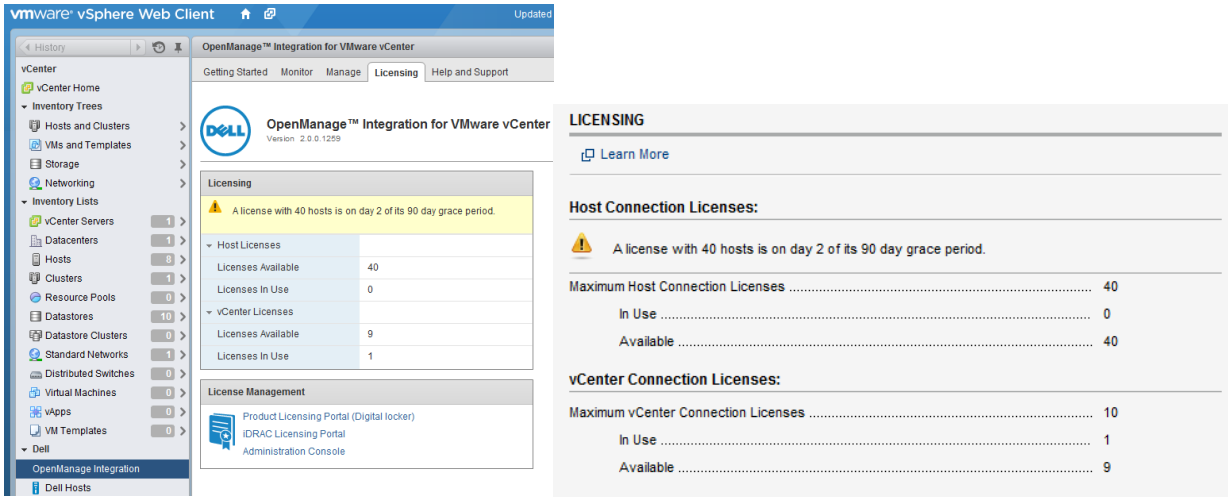

Figure 11 License in grace period message

6.3.3 All Licenses have expired

If all of the licenses have expired, a message will appear within the integration. Additionally, some license enforcement, such as the inability to upgrade for standard licenses, or the loss of functionality when using an evaluation license.

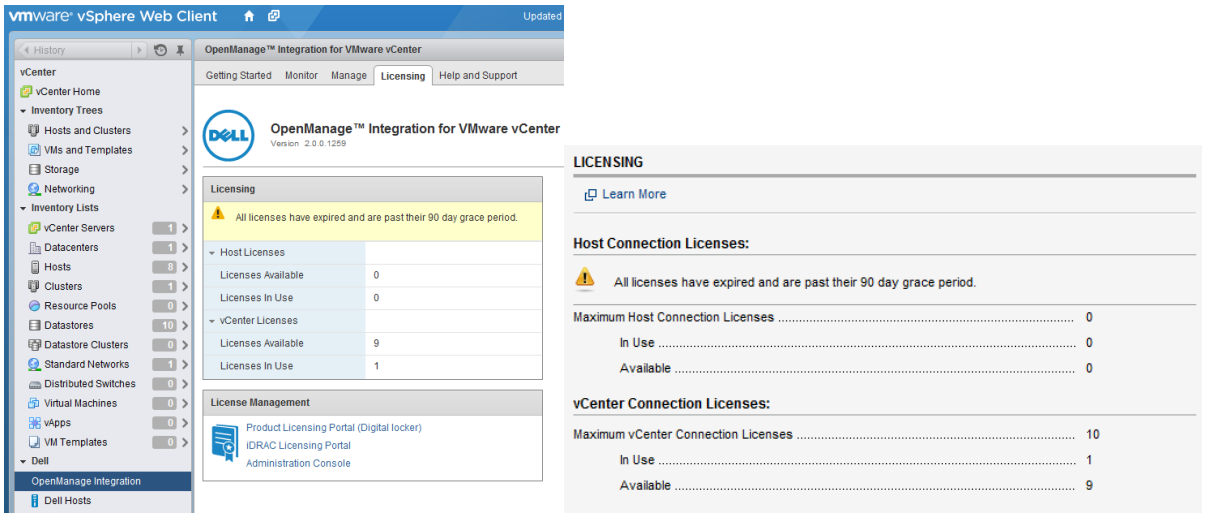

Figure 12 All Licenses have expired message

6.3.4 Number of host licenses has been exceeded.

When creating or editing connection profiles, If the number of hosts licenses exceeds the number of licenses available for new servers to be added to a connection profile, an error message may be displayed.

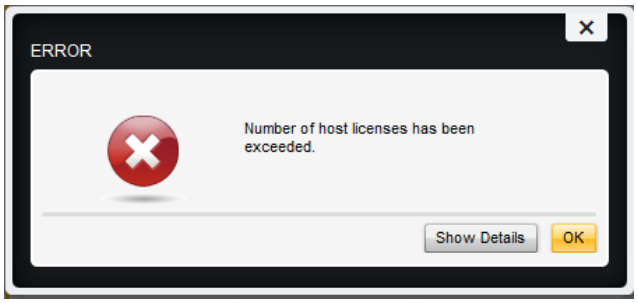

Figure 13 Number of host licenses have been exceeded.

To successfully add new hosts after receiving this message, insure that you have at least one valid license, and attempt adding fewer servers at a time to the connection profile, allowing an inventory to complete on the newly added servers prior to attempting to add additional servers.

7 Enforcement

There are built in enforcement mechanizms that are intended to require the use of a license, yet continue allowing an expired license to work. Furthermore, there are buffers in place that will allow the continued functionality when limits are exceeded.

7.1 Appliance Updates

The appliance will not allow updates to newer versions when all licenses are expired. Please obtain and upload a new license prior to attempting to upgrade the appliance.

7.2 Evaluation Licenses

When an evaluation license expires, several key areas will cease to work, and display an error message.

7.3 Adding Hosts to Connection Profiles.

When attempting to add a host to a connection profile, if the number of licensed 11th Generation or newer hosts is exceeded and beyond the padded enforcement value, adding additional hosts is prevented.

NOTE: If you are attempting to add a large number of hosts of any generation to a connection profile, the number of hosts you can add at a given time is limited by the number of 11th generation hosts licenses available, to include additional 20 percent in the number of hosts of your license for padding. If you are adding 9th or 10th generation hosts, please allow an inventory to run so the generation of the servers you added can be determined, then add more servers to the connection profile.

8 Conclusion

The new licensing mechanism and license files used in the 2.0 version of the Dell OpenManage Integration for VMware VCenter brings changes to the way host limits and upgrades are enforced. These changes also include a grace period, continued functionaly after expiration and padding for standard licenses. The grace period and continued functionaly after expiration of a standard license was designed with the understanding that keeping your environment online is a top priority. The padding designed into the quantity of hosts in a connection profile was added knowing that the purchase of new licenses doesn't happen automatically, and occasionally when adding new Dell Servers to your vCenter you may need some extra time to navigate the procurement process.